

## ABSTRACT OF THE DISCLOSURE

A method and system enable optimization of trunk group design in a public switched telephone network (PSTN). A community of interest, including two end offices connected by a direct trunk and at least one tandem switch, is identified using out-of band signaling data collected from the PSTN. An application server interfaced to the PSTN determines whether traffic in the community of interest passes through the tandem switch during a predetermined time period. When traffic passes through the tandem switch, the application server further determines whether the direct trunk between the end offices experienced an overflow condition during the same predetermined time period. When the direct trunk did not experience an overflow condition, an exchange code associated with the traffic passing through the tandem switch is designated as a misrouted code. The misrouted code is flagged so that associated traffic is redirected through the direct trunk.